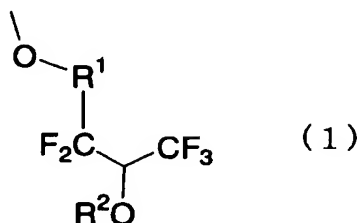


**WHAT IS CLAIMED IS:**

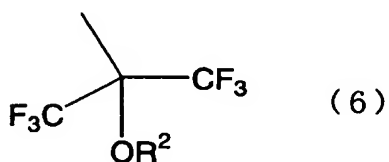
1. A fluorine-containing compound comprising a substituent represented by the formula 1,



where  $R^1$  is (a) a straight-chain or branched alkyl or alkylene group, (b) a cyclic structure containing an aromatic ring group or aliphatic cyclic group, or (c) a substituent containing an aromatic ring group and an aliphatic cyclic group, and  $R^1$  optionally contains fluorine, another halogen, CN, oxygen, nitrogen, silicon, or alcohol, and

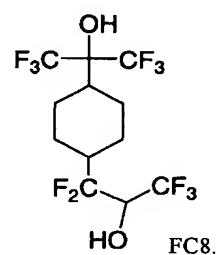
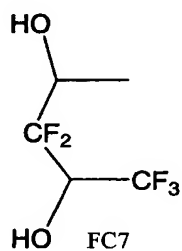
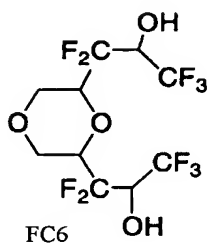
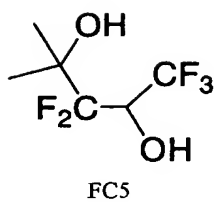
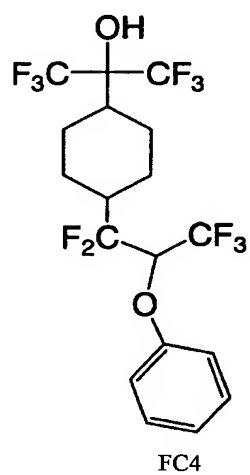
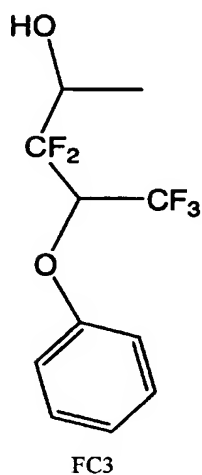
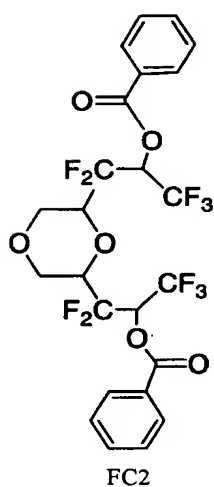
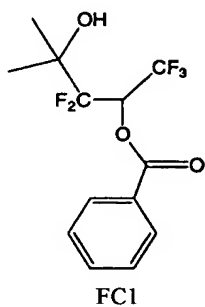
$R^2$  is a hydrogen atom, a straight-chain or branched alkyl group, an aromatic group, or a hydrocarbon group optionally containing an aliphatic cyclic group, and  $R^2$  optionally contains fluorine, oxygen, nitrogen, carbonyl bond, or alcohol, and a plural number of  $R^2$  having different structures are optionally contained in the molecule.

2. A fluorine-containing compound according to claim 1, wherein  $R^1$  comprises a hexafluorocarinol group represented by the formula 6,

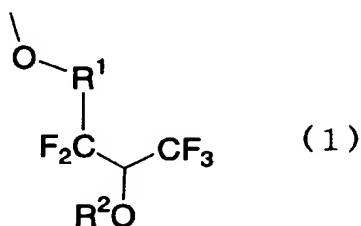


wherein  $R^2$  is defined as in the formula 1.

3. A fluorine-containing compound according to claim 1, which is selected from first to eighth fluorine-containing compounds respectively represented by the following formulas FC1 to FC8:



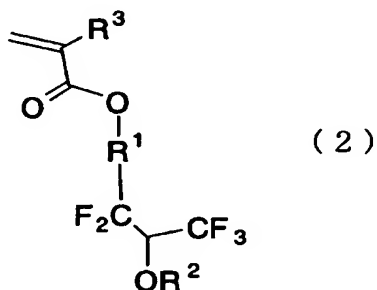
4. A fluorine-containing polymerizable monomer comprising a substituent represented by the formula 1,



where  $\text{R}^1$  is (a) a straight-chain or branched alkyl or alkylene group, (b) a cyclic structure containing an aromatic ring group or aliphatic cyclic group, or (c) a substituent containing an aromatic ring group and an aliphatic cyclic group, and  $\text{R}^1$  optionally contains fluorine, another halogen, CN, oxygen, nitrogen, silicon, or alcohol, and

$\text{R}^2$  is a hydrogen atom, a straight-chain or branched alkyl group, an aromatic group, or a hydrocarbon group optionally containing an aliphatic cyclic group, and  $\text{R}^2$  optionally contains fluorine, oxygen, nitrogen, carbonyl bond, or alcohol, and a plural number of  $\text{R}^2$  having different structures are optionally contained in the molecule.

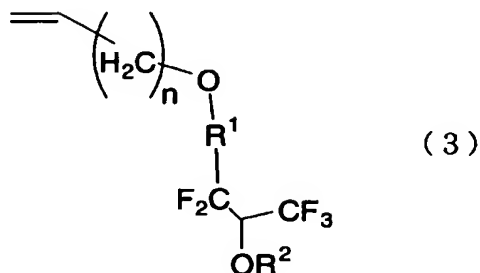
5. A fluorine-containing polymerizable monomer according to claim 4, which is represented by the formula 2,



wherein  $\text{R}^1$  and  $\text{R}^2$  are defined as in the formula 1, and

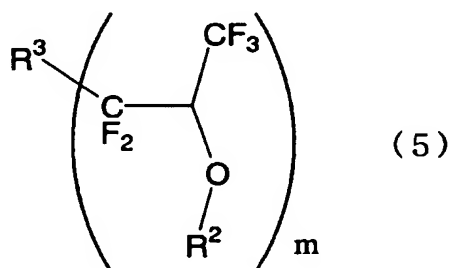
$\text{R}^3$  is a hydrogen, fluorine, alkyl group optionally containing fluorine, or cyano group.

6. A fluorine-containing polymerizable monomer according to claim 4, which is represented by the formula 3,



wherein  $\text{R}^1$  and  $\text{R}^2$  are defined as in the formula 1, and  $n$  is 0 or 1.

7. A fluorine-containing polymerizable monomer according to claim 4, wherein the substituent represented by the formula 1 is derived from a compound represented by the formula 5,

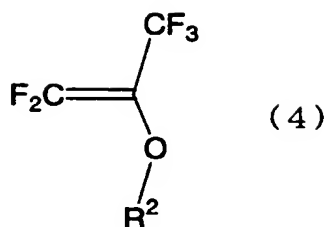


wherein  $\text{R}^2$  is defined as in the formula 1,

$\text{R}^3$  is a straight-chain or cyclic group containing at least one selected from the group consisting of ether bond, ester bond and hydroxyl group, and

$m$  is an integer of 1-3,

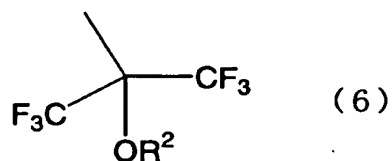
wherein the compound represented by the formula 5 is prepared by a radical addition reaction, in which a compound represented by the formula 4:



wherein  $\text{R}^2$  is defined as in the formula 1, is added to an alcohol, ether or ester compound.

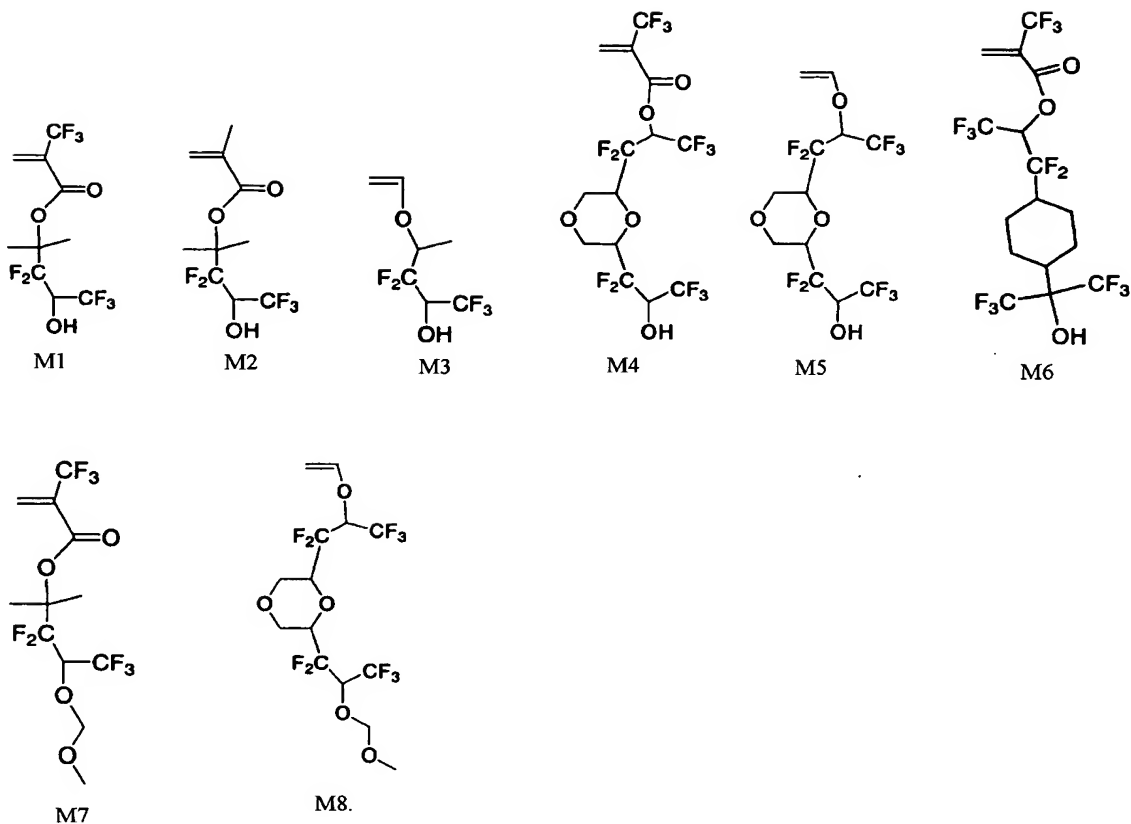
8. A fluorine-containing polymerizable monomer according to claim 4, wherein  $\text{R}^2$  in the formula 1 is an acid-labile protecting group.

9. A fluorine-containing polymerizable monomer according to claim 4, wherein  $\text{R}^1$  comprises a hexafluorocarbon group represented by the formula 6,

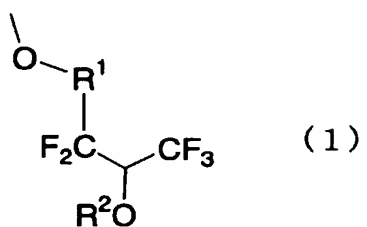


wherein  $\text{R}^2$  is defined as in the formula 1.

10. A fluorine-containing polymerizable monomer according to claim 4, which is selected from first to eighth fluorine-containing polymerizable monomers respectively represented by the following formulas M1 to M8:



11. A fluorine-containing polymer comprising a substituent represented by the formula 1,

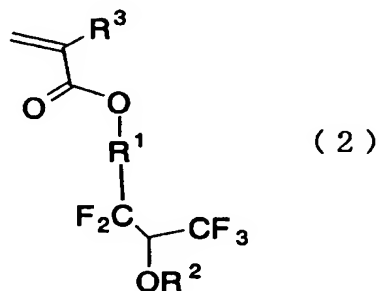


where  $\text{R}^1$  is (a) a straight-chain or branched alkyl or alkylene group, (b) a cyclic structure containing an aromatic ring group or aliphatic cyclic group, or (c) a substituent containing an aromatic ring group and an aliphatic cyclic group, and  $\text{R}^1$  optionally contains fluorine, another halogen, CN, oxygen, nitrogen, silicon, or alcohol, and

$R^2$  is a hydrogen atom, a straight-chain or branched alkyl group, an aromatic group, or a hydrocarbon group optionally containing an aliphatic cyclic group, and  $R^2$  optionally contains fluorine, oxygen, nitrogen, carbonyl bond, or alcohol, and a plural number of  $R^2$  having different structures are optionally contained in the molecule.

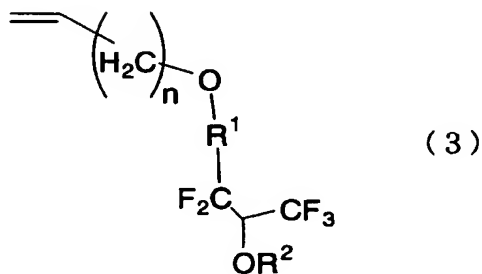
12. A fluorine-containing polymer according to claim 11, which is prepared by a polymerization or copolymerization, using a fluorine-containing polymerizable monomer comprising the substituent represented by the formula 1, and

wherein the fluorine-containing polymerizable monomer is represented by the formula 2 or 3:



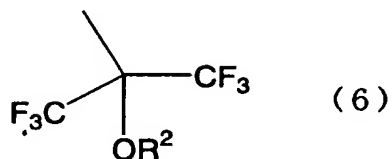
wherein  $R^1$  and  $R^2$  are defined as in the formula 1, and

$R^3$  is a hydrogen, fluorine, alkyl group optionally containing fluorine, or cyano group.



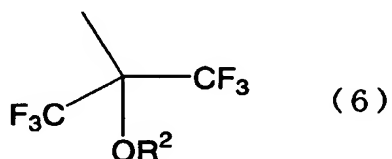
wherein  $R^1$  and  $R^2$  are defined as in the formula 1, and  $n$  is 0 or 1.

13. A fluorine-containing polymer according to claim 11, wherein  $R^1$  comprises a hexafluorocarbonol group represented by the formula 6,



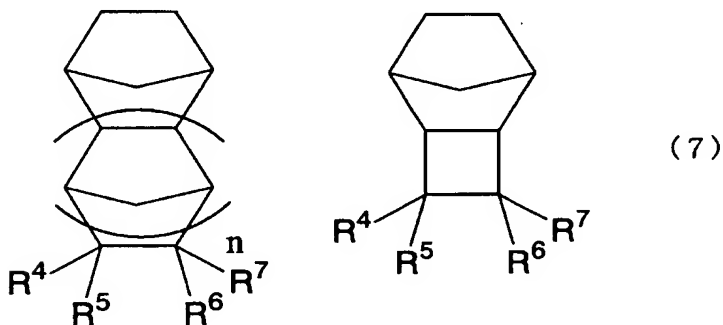
wherein  $R^2$  is defined as in the formula 1.

14. A fluorine-containing polymer according to claim 12, wherein the fluorine-containing polymerizable monomer, which is used in the copolymerization, comprises a hexafluorocarbonol group represented by the formula 6,



wherein  $R^2$  is defined as in the formula 1.

15. A fluorine-containing polymer according to claim 12, wherein the fluorine-containing polymerizable monomer comprises a norbornene represented by one of the following two formulas 7,

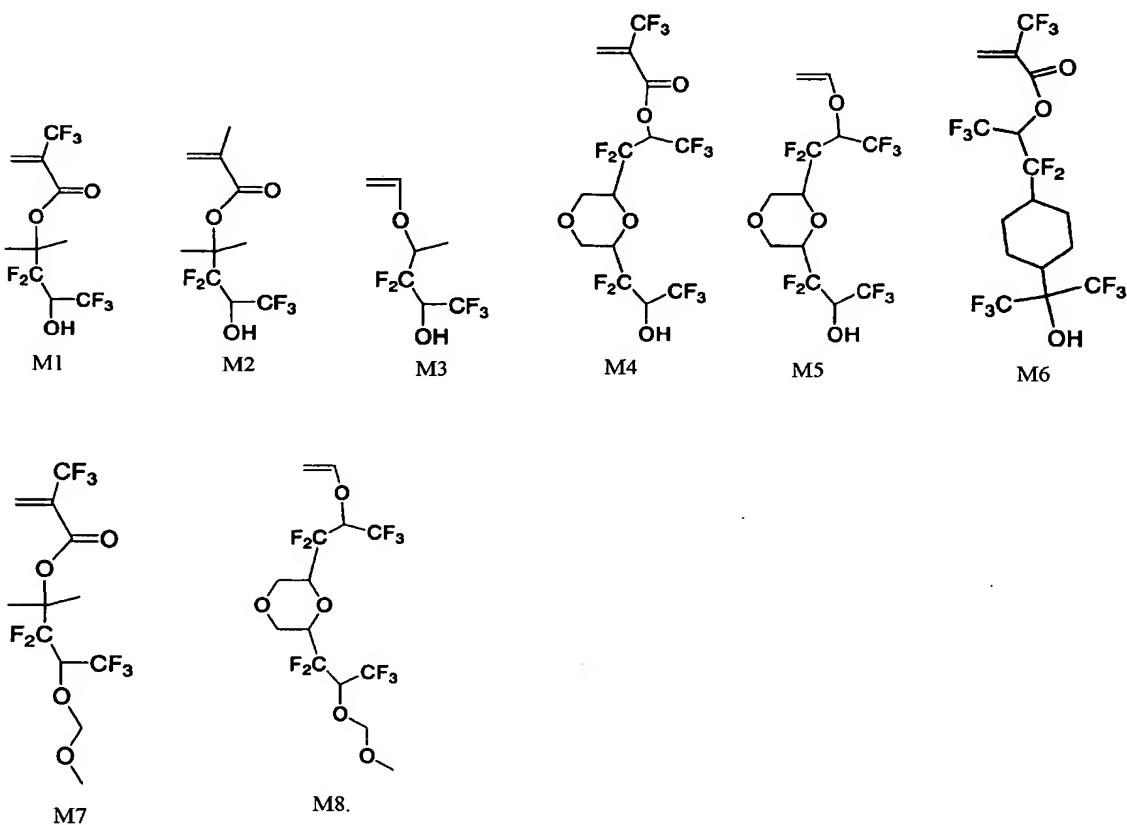




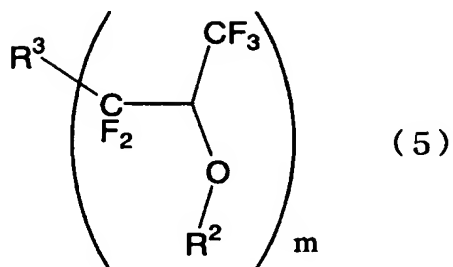
wherein each of R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, and R<sup>7</sup> is independently a hydrogen, fluorine, another halogen, a straight-chain or branched alkyl or fluoroalkyl group optionally containing a cyclic structure, a fluorine-containing cyclic group, hydroxyl group, carboxyl group, a hydroxyl or carboxyl group protected with R<sup>2</sup> as defined in the formula 1, or a group containing at least two of these.

16. A fluorine-containing polymer according to claim 12, wherein R<sup>2</sup> in the formula 2 or 3 is an acid-labile protecting group.

17. A fluorine-containing polymer according to claim 11, which comprises a repeating unit derived from at least one monomer selected from first to eighth fluorine-containing polymerizable monomers respectively represented by the following formulas M1 to M8:



18. A dissolution inhibitor comprising a compound represented by the formula 5,

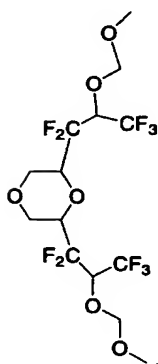


wherein R<sup>2</sup> is an acid-labile protecting group,

R<sup>3</sup> is a straight-chain or cyclic group containing at least one selected from the group consisting of ether bond, ester bond and hydroxyl group, and

m is an integer of 1-3.

19. A dissolution inhibitor according to claim 18, wherein the compound is represented by the following formula:



20. A resist composition comprising a fluorine-containing polymer according to claim 11.